

## PATENT SPECIFICATION

DRAWINGS ATTACHED



Inventor: GEORGE ELLIOTT BABB

848,215

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## COMPLETE SPECIFICATION

## Improvements in or relating to Respiratory Masks

We, AIRMED, LIMITED, a British Company of South Road, Temple Fields, Harlow, Essex, do hereby declare this invention to be described in the following statement:—

5 This invention relates to respiratory masks, particularly for administering anaesthetics, and comprises an improved form of facepiece for such masks.

10 One of the things required of such a facepiece is that it should form an effective seal to prevent the escape of gas from the interior of the facepiece when a positive pressure is produced therein whilst it is applied to a person's face. It is also required to form an effective seal against leakage of air into the facepiece when a negative pressure is produced therein. A further requirement is that the facepiece should be capable of supporting the chin so as to prevent the lower jaw from 15 falling when a person to whom the mask has been applied loses consciousness.

According to the present invention, in order to meet all these requirements, a facepiece is provided with two sealing edges, one of which 20 is turned inwards and arranged to fit against the front of the face round the nose and mouth of the wearer whereas the other is turned outwards and arranged to fit round the nose and mouth and under the chin.

25 The invention will be fully understood from the following description of one form of facepiece according to the invention, reference being made to the accompanying drawings in which:—

30 Figure 1 is a rear elevation

Figure 2 is a section taken on the line II—II of Figure 1, and

Figure 3 is a section taken on the line III—III of Figure 1.

35 The facepiece shown in the drawing is a moulded cup made of rubber or like material shaped to fit round the nose, mouth and chin of the wearer. It has a wall 1 which gradually tapers to a thin edge 2 constituting an outer sealing edge capable of fitting closely against

[Price]

the face round the nose and mouth and under the chin.

In addition to the outer sealing edge mentioned above, the facepiece is formed with an inner sealing edge 3 on a flexible rib or flange 4 projecting inwards from the internal surface of the wall 1 of the facepiece and extending completely round the facepiece within the outer sealing edge 2 so as to fit against the front of the face and round the nose and mouth of the wearer. At the upper sides of the facepiece in the region marked "A" in the drawing, where the facepiece fits over the bridge of the nose of the wearer, the inner and outer sealing edges 2 and 3 are quite close together, but they gradually diverge as they pass round the sides of the facepiece and are further apart in the region marked "B" at the lower side of the facepiece, where the inner sealing edge 3 is adapted to bear against the front of the chin, whereas the outer sealing edge 2 is adapted to pass beneath the chin. The part "C" of the wall 1 of the facepiece that extends between the inner and outer sealing edges at the lower side of the facepiece is shaped to fit under the chin and thus to provide a support for the jaw that will prevent it from dropping if the wearer loses consciousness. The mask is made sufficiently flexible to enable it to fit closely to the face. The inner edge 3 may need to be made somewhat thinner than the outer edge 2, in order that it will make an effective seal against the front of the face, the effect of internal pressure upon the inturned rib or flange 4 being utilised to increase the pressure of the sealing edge 3 against the face automatically as the internal pressure rises.

40 The facepiece may have a central opening 5 with a removable bush 6 for connecting it to a flexible pipe and for attaching a harnessing 7 provided with hooks 8 for attaching the facepiece to a harness for holding it in place upon the face of the wearer.

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## WHAT WE CLAIM IS:—

1. A facepiece for a respiratory mask provided with two sealing edges, one of which is turned inwards and arranged to fit against the front of the face and round the nose and mouth of the wearer, whereas the other is turned outwards and arranged to fit round the nose and mouth and under the chin.

2. A facepiece for a respiratory mask substantially as described with reference to the accompanying drawing. 10

For the Applicants:  
LLOYD, WISE, BOULY & HAIG,  
Chartered Patent Agents,  
10, New Court, Lincoln's Inn,  
London, W.C.2.

## PROVISIONAL SPECIFICATION

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We, AIRMED LIMITED, a British Company of South Road, Temple Fields, Harlow, Essex, do hereby declare this invention to be described in the following statement:—

This invention relates to respiratory masks, particularly for administering anaesthetics, and comprises an improved form of facepiece for such masks.

- 15 20 One of the things required for such a facepiece is that it should form an effective seal to prevent the escape of gas from the interior of the facepiece when a positive pressure is produced therein whilst it is applied to a person's face. It is also required to form an effective seal against leakage of air into the facepiece when a negative pressure is produced therein. A further requirement is that the facepiece should be capable of supporting the chin so as to prevent the lower jaw from falling when a person to whom the mask has been applied loses consciousness.

25 30 According to the present invention, in order to meet all these requirements, a facepiece is provided with two sealing edges, one of which is turned inwards and arranged to fit against the front of the face round the nose and mouth of the wearer whereas the other is turned outwards and arranged to fit round the nose and mouth and under the chin.

35 40 In its preferred form, a facepiece according to the invention is a rubber or like moulded cup shaped to fit round the nose and mouth and chin of the wearer and having a wall which gradually tapers to a thin edge constituting an outer sealing edge capable of fitting closely against the face round the nose and mouth and under the chin.

45 50 In addition to the outer sealing edge mentioned above, the facepiece is formed with an inner sealing edge on a flexible rib or flange projecting inwards from the internal wall of

the facepiece and extending completely round the facepiece within the outer sealing edge. At the upper side of the rim of the facepiece, where it fits over the bridge of the nose of the wearer, the inner and outer sealing edges are quite close together, but they gradually diverge as they pass round the sides of the facepiece and are furthest apart at the lower side of the facepiece, where the inner sealing edge bears against the front of the chin whereas the outer sealing edge passes beneath the chin. That part of the wall of the facepiece that extends between the inner and outer sealing edges at the lower side of the facepiece is shaped to fit under the chin and thus to provide a support for the jaw that will prevent it from gaping open if the wearer loses consciousness. The mask is made sufficiently flexible to enable it to fit closely to the face. The inner edge is preferably somewhat sharper than the outer edge so that it will make an effective seal against the front of the face, the effect of internal pressure upon the in-turned rib or flange being utilised to increase the pressure of the sealing edge against the face automatically as the internal pressure rises.

55 60 65 70 75 80 85 The facepiece may have a central opening with a removable bush for connecting it to a flexible pipe and for attaching a harnessing provided with hooks for attaching the facepiece to a harness for holding it in place upon the face of the wearer.

The invention is illustrated in the accompanying drawing.

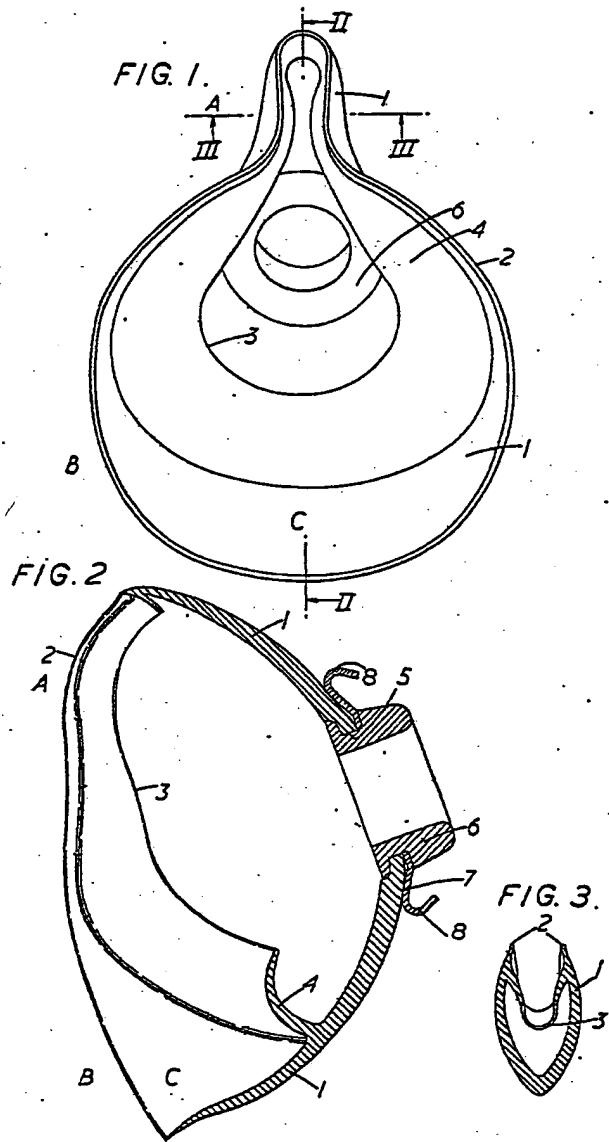
For the Applicants:  
LLOYD WISE, BOULY & HAIG,  
Chartered Patent Agents,  
10, New Court, Lincoln's Inn,  
London, W.C.2.

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COMPLETE SPECIFICATION

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the Original on a reduced scale.*



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